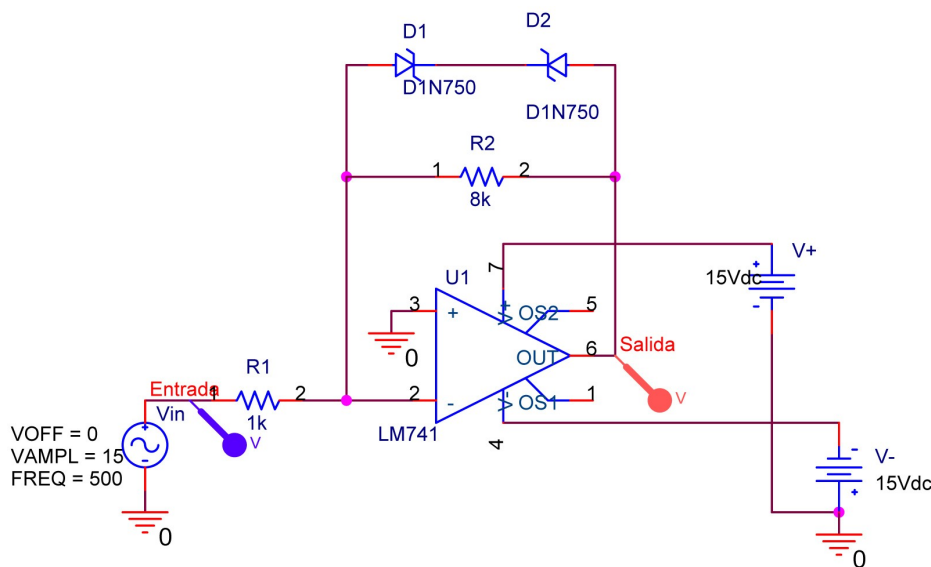
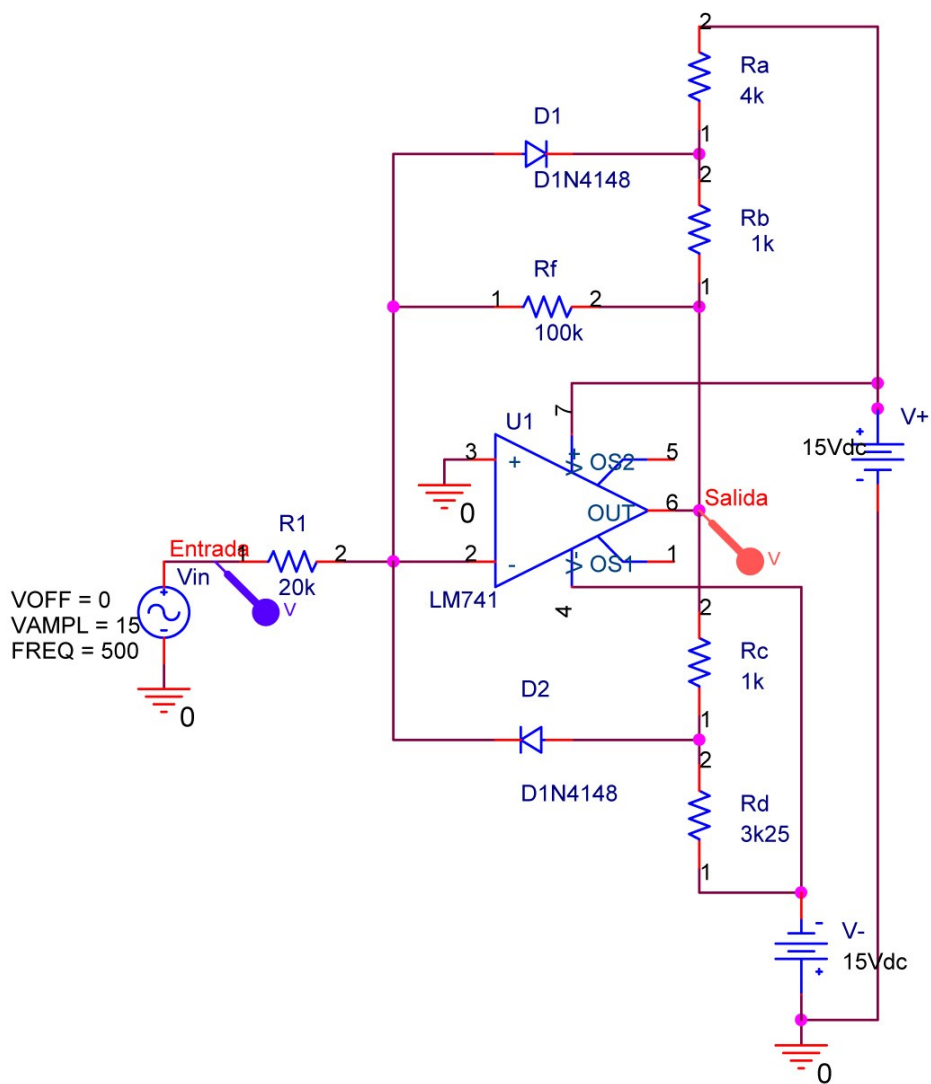


# Circuitos limitadores con operacionales

Circuito limitador con diodos zener (montaje 1):



Circuito limitador con diodos (montaje 2):



**Configuración de la simulación para obtener los gráficos correspondientes a las funciones de transferencia utilizando una fuente de tensión continua como Vin:**

The screenshot shows the 'Analysis' tab of a simulation configuration window. The 'Analysis type' is set to 'DC Sweep'. Under 'Options', 'Primary Sweep' is checked. The 'Sweep variable' section has 'Voltage source' selected with 'Name' set to 'Vin'. The 'Sweep type' section has 'Linear' selected, with 'Start value' at -15, 'End value' at 15, and 'Increment' at 0.01.

General Analysis Configuration Files Options Data Collection Probe Window

Analysis type:  
DC Sweep

Options:  
☒ Primary Sweep  
☐ Secondary Sweep  
☐ Monte Carlo/Worst Case  
☐ Parametric Sweep  
☐ Temperature (Sweep)  
☐ Save Bias Point  
☐ Load Bias Point

Sweep variable  
☒ Voltage source Name: Vin  
☐ Current source Model type:  
☐ Global parameter Model name:  
☐ Model parameter Parameter name:  
☐ Temperature

Sweep type  
☒ Linear Start value: -15  
☐ Logarithmic Decade End value: 15  
Increment: 0.01  
☐ Value list

**Configuración de la simulación para obtener los gráficos correspondientes a una señal senoidal de entrada utilizando una fuente de tensión alterna senoidal como Vin:**

The screenshot shows the 'Analysis' tab of a simulation configuration window. The 'Analysis type' is set to 'Time Domain (Transient)'. Under 'Options', 'General Settings' is checked. The 'Run to time' is set to 10ms. The 'Start saving data after' is set to 0 seconds. The 'Transient options' section has 'Maximum step size' set to 500ns and 'Skip the initial transient bias point calculation (SKIPBP)' checked.

General Analysis Configuration Files Options Data Collection Probe Window

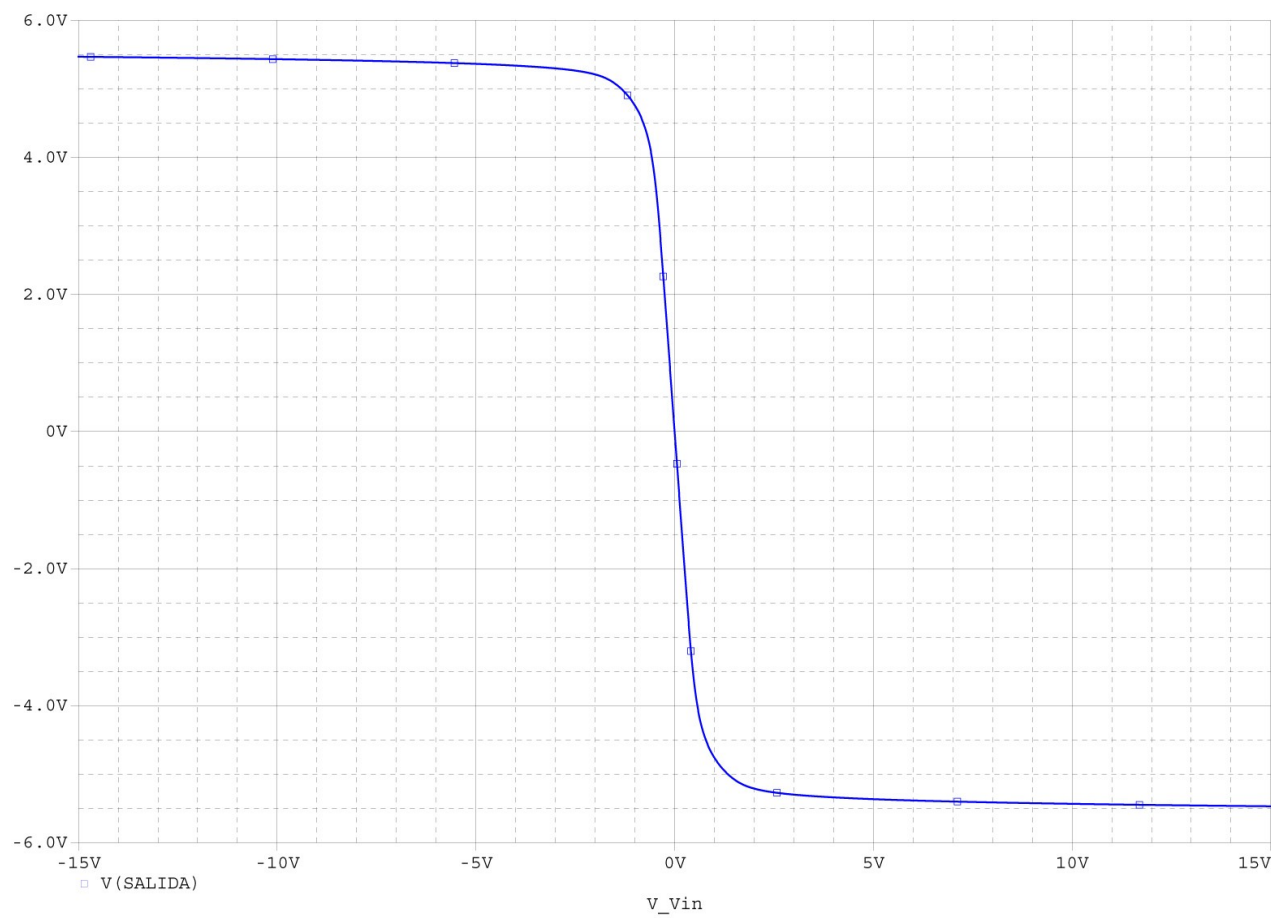
Analysis type:  
Time Domain (Transient)

Options:  
☒ General Settings  
☐ Monte Carlo/Worst Case  
☐ Parametric Sweep  
☐ Temperature (Sweep)  
☐ Save Bias Point  
☐ Load Bias Point  
☐ Save Check Points  
☐ Restart Simulation

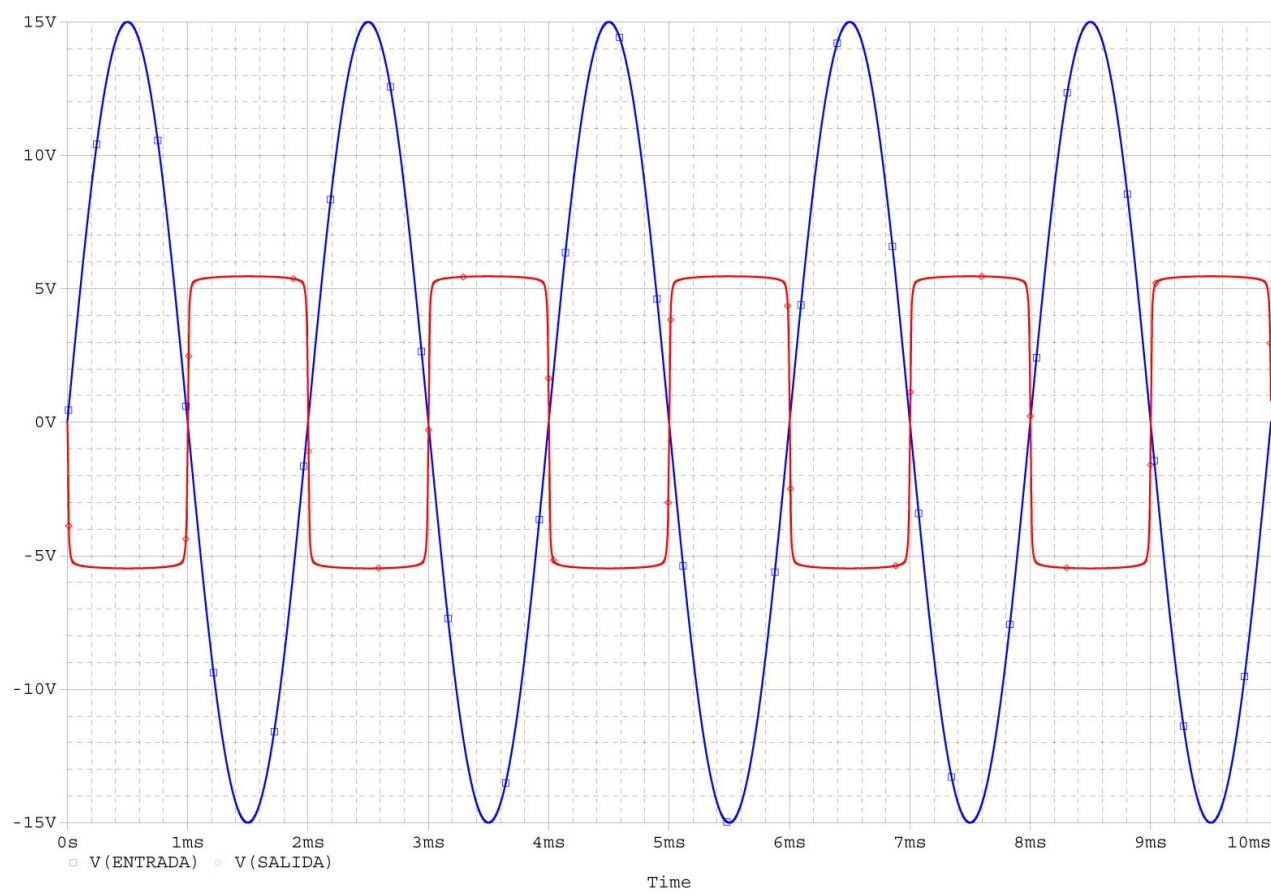
Run to time: 10ms seconds (TSTOP)  
Start saving data after: 0 seconds

Transient options  
Maximum step size: 500ns seconds  
☒ Skip the initial transient bias point calculation (SKIPBP)  
☐ Run in resume mode  
Output File Options...

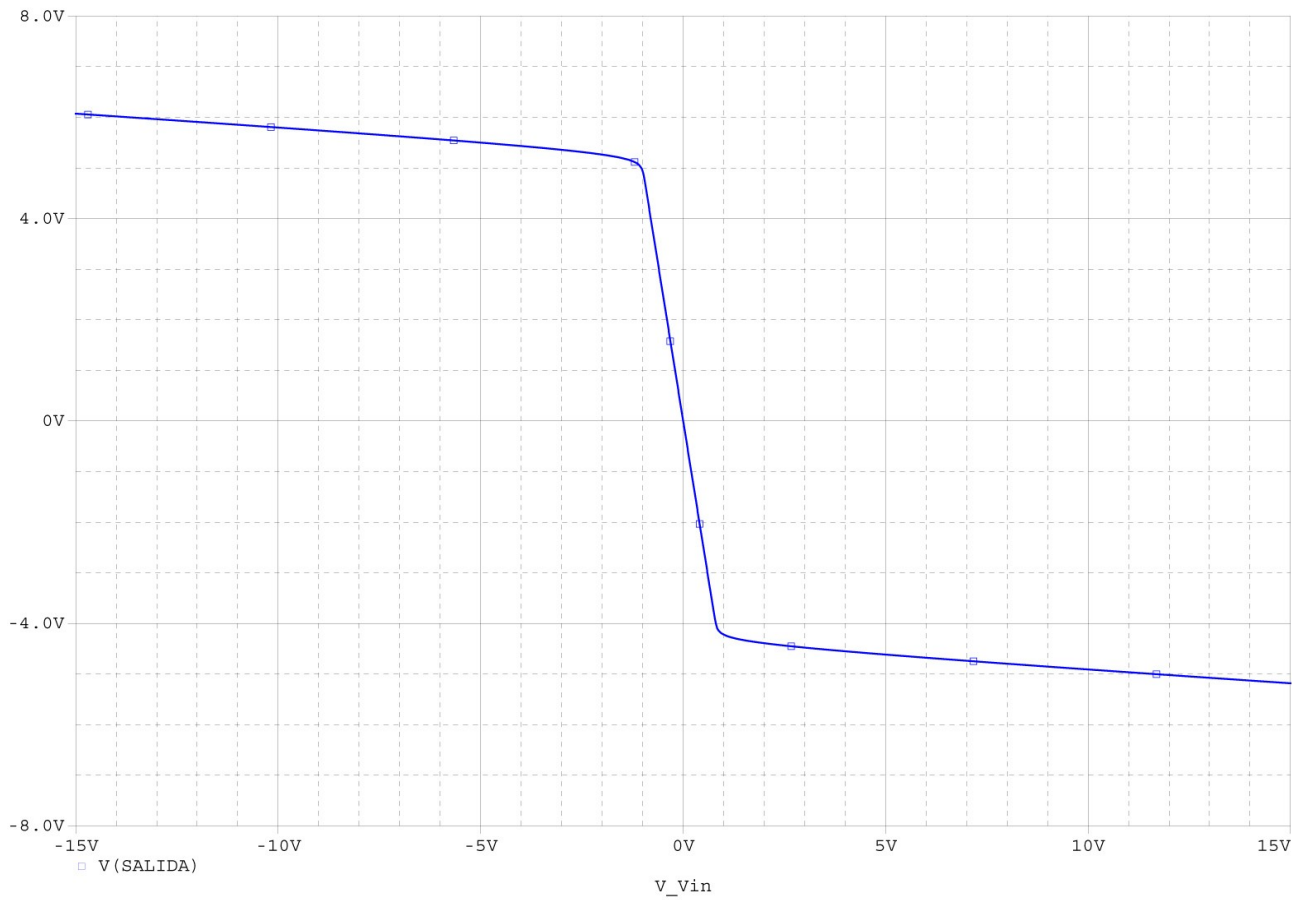
Función de transferencia del montaje 1:



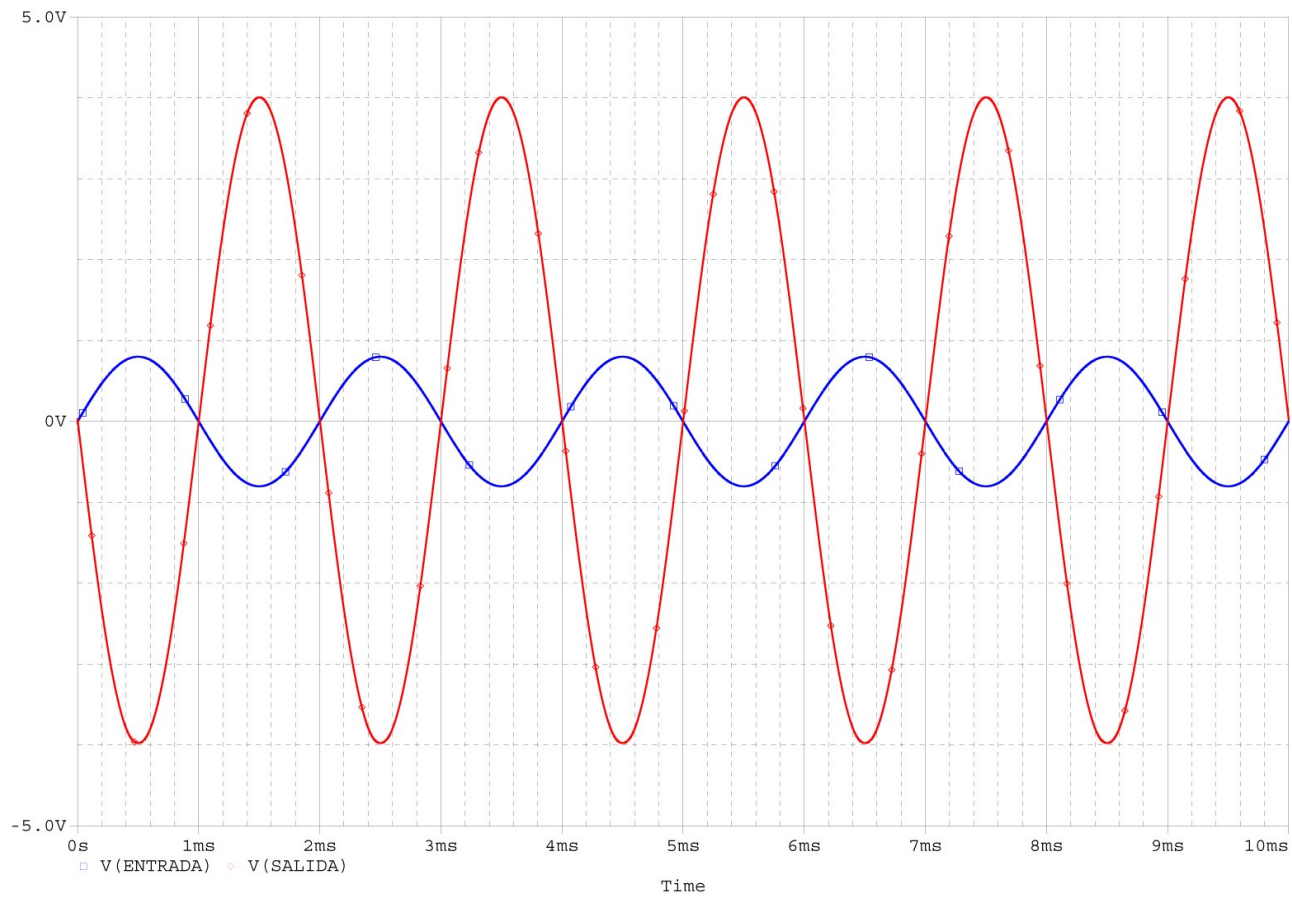
Simulación transitoria del montaje 1:



Función de transferencia del montaje 2:



Simulación transitoria del montaje 2 sin que el circuito entre en las zonas de limitación:



Simulación transitoria del montaje 2 con zonas de saturación (negativa a -5v y positiva a 6v):

